ARKANSAS TEACHER RETIREMENT SYSTEM

Annual Financial Report

June 30, 2018



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Senate Chair
Sen. Eddie Cheatham
Senate Vice Chair



Rep. Richard Womack House Chair Rep. DeAnn Vaught House Vice Chair

Roger A. Norman, JD, CPA, CFE, CFF Legislative Auditor

LEGISLATIVE JOINT AUDITING COMMITTEE ARKANSAS LEGISLATIVE AUDIT

INDEPENDENT AUDITOR'S REPORT

Arkansas Teacher Retirement System Legislative Joint Auditing Committee

Report on the Financial Statements

We have audited the accompanying financial statements of the Fiduciary Pension Trust Fund of the Arkansas Teacher Retirement System, an office of Arkansas state government, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Arkansas Teacher Retirement System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Fiduciary Pension Trust Fund of the Arkansas Teacher Retirement System as of June 30, 2018, and the changes in financial position for the year then ended, in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As indicated above, the financial statements of the Arkansas Teacher Retirement System are intended to present the financial position and the changes in financial position of only that portion of the Fiduciary Pension Trust Fund of the State that is attributable to the transactions of the Arkansas Teacher Retirement System. They do not purport to, and do not, present fairly the financial position of the State as of June 30, 2018, or the changes in its financial position for the year then ended, in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the required supplementary information, listed in the accompanying table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

The Governmental Accounting Standards Board requires that a Management's Discussion and Analysis be presented to supplement government-wide financial statements. However, as discussed in the "Emphasis of Matter" paragraph above, the financial statements of the Arkansas Teacher Retirement System are only for the specific transactions and activity of the Agency and not for the State as a whole. Therefore, the Management's Discussion and Analysis is not required to be presented for the Arkansas Teacher Retirement System individually. Our opinion on the basic financial statements is not affected by the omission of this information.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Arkansas Teacher Retirement System's basic financial statements. The Schedule of Selected Information is presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Schedule of Selected Information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on this information.

Other Reporting Required by Government Auditing Standards

In accordance with Government Auditing Standards, we have also issued our report dated January 24, 2019 on our consideration of the Arkansas Teacher Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards in considering the Arkansas Teacher Retirement System's internal control over financial reporting and compliance.

ARKANSAS LEGISLATIVE AUDIT

Kozuk Norman

Roger A. Norman, JD, CPA, CFE, CFF

Legislative Auditor

Little Rock, Arkansas January 24, 2019 SA1037518



Sen. Jason Rapert Senate Chair Sen. Eddie Cheatham Senate Vice Chair



House Chair **Rep. DeAnn Vaught**House Vice Chair

Rep. Richard Womack

Roger A. Norman, JD, CPA, CFE, CFF Legislative Auditor

LEGISLATIVE JOINT AUDITING COMMITTEE ARKANSAS LEGISLATIVE AUDIT

REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

INDEPENDENT AUDITOR'S REPORT

Arkansas Teacher Retirement System Legislative Joint Auditing Committee

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the Fiduciary Pension Trust Fund of the Arkansas Teacher Retirement System (the "Agency"), an office of Arkansas state government, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Arkansas Teacher Retirement System's basic financial statements and have issued our report thereon dated January 24, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Agency's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements but not for the purpose of expressing an opinion on the effectiveness of the Agency's internal control. Accordingly, we do not express an opinion on the effectiveness of the Agency's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Agency's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose. However, pursuant to Ark. Code Ann. § 10-4-417, all reports presented to the Legislative Joint Auditing Committee are matters of public record, and distribution is not limited.

ARKANSAS LEGISLATIVE AUDIT

Jon Moore, CPA, CFE, CFF Deputy Legislative Auditor

Jon Moore

Little Rock, Arkansas January 24, 2019

Exhibit A

ARKANSAS TEACHER RETIREMENT SYSTEM STATEMENT OF FIDUCIARY NET POSITION JUNE 30, 2018

	Totals
ASSETS Cash and cash equivalents	\$ 318,615,761
Cash and Sash Squivalones	Ψ 010,010,101
Receivables:	
Member contributions	8,384,828
Employer contributions	22,548,166
Investment trades pending	53,789,178
Accrued investment income	14,987,825
Due from other funds	3,126,606
Other receivables	248,822_
Total Receivables	103,085,425
Investments, at fair value:	
Domestic equities	2,849,080,788
International equities	961,598,275
U.S. Government obligations	7,841,258
Corporate obligations	777,231,513
Asset- and mortgage-backed securities	42,042,694
Limited partnerships	70,411,826
Real estate	57,238,826
Pooled investments	7,041,685,885
Alternative investments	5,143,913,383
State recycling tax credits	208,000,000
Investment derivatives	981,576
Total Investments	17,160,026,024
Securities lending collateral	506,400,660
Capital assets, net of accumulated depreciation	177,916
Other assets	75,217
TOTAL ASSETS	18,088,381,003
LIABILITIES	
Accrued expenses and other liabilities	12,827,364
Compensated absences	533,706
Post-employment benefit liability	5,387,621
Investment trades pending payable	68,389,221
Securities lending liability	506,308,705
Due to other funds	2,306,646
TOTAL LIABILITIES	595,753,263
NET POSITION RESTRICTED FOR PENSION BENEFITS	\$ 17,492,627,740

The accompanying notes are an integral part of these financial statements.

Exhibit B

ARKANSAS TEACHER RETIREMENT SYSTEM STATEMENT OF CHANGES IN FIDUCIARY NET POSITION FOR THE YEAR ENDED JUNE 30, 2018

	Totals
ADDITIONS	
Contributions:	
Member	\$ 138,766,747
Employer	424,488,126
Total contributions	563,254,873
Investment income	
From investing activities:	
Net appreciation (depreciation) in fair value of investments	1,749,045,731
Interest and dividends	106,577,219
Real estate operating income	7,596,033
Total investment income (loss)	1,863,218,983
Less investment expense	44,259,078
Net investment income (loss)	1,818,959,905
From securities lending activities:	
Securities lending gross income	11,059,078
Less: securities lending expense	5,983,625
Net securities lending income (loss)	5,075,453
Other income	59,337
TOTAL ADDITIONS (LOSSES)	2,387,349,568
DEDUCTIONS	
Benefits	1,160,738,237
Refunds of contributions	9,455,405
Administrative expenses	9,336,430
TOTAL DEDUCTIONS	1,179,530,072
CHANGE IN NET POSITION RESTRICTED FOR PENSION BENEFITS	1,207,819,496
NET POSITION - BEGINNING OF YEAR	16,284,808,244
NET POSITION - END OF YEAR	\$ 17,492,627,740

The accompanying notes are an integral part of these financial statements.

NOTE 1: Summary of Significant Accounting Policies

A. Reporting Entity/History

Act 266 of 1937, as amended, established the Arkansas Teacher Retirement System (ATRS) as an office of Arkansas state government for the purpose of providing retirement benefits for employees of any school or other educational agency participating in ATRS. Act 427 of 1973, as amended, provided that the general administration of ATRS, responsibility for its proper operation, and responsibility for making effective the provisions of the Teacher Retirement law are vested in a 15-member Board of Trustees. The State Bank Commissioner, Treasurer of State, Auditor of State, and Commissioner of Education are ex-officio trustees. The remaining 11 trustees are elected and consist of seven active members of ATRS with at least five years of actual service, three retired members receiving an annuity from ATRS, and one active or retired member from a minority racial ethnic group. The seven active trustees consist of one member from each of the four congressional districts; two administrators, of whom one must be a superintendent; and one member employed in a position that does not require state licensure. The trustees are elected in accordance with rules adopted by the Board. Board members serve as trustees without compensation but are reimbursed for any necessary expenses incurred to attend Board meetings or perform other duties authorized by the Board.

B. Plan Description

ATRS is a cost-sharing, multiple-employer defined benefit pension plan that covers employees of schools and education-related agencies, including Arkansas School for the Blind, Arkansas School for the Deaf, Arkansas Activities Association, State Board of Education, regional education service cooperatives, ATRS, Arkansas Educational Television Commission, area vocational-technical schools, Arkansas Rehabilitation Services, enterprises privatized by a public school district, and educational nonprofit organizations.

On June 30, 2018, the number of participating employers was as follows:

260
40
11
29
340

On June 30, 2018, ATRS's membership consisted of the following:

Retirees or beneficiaries currently receiving benefits	46,824
T-DROP participants	3,696
Inactive plan members (not receiving benefits)	12,544
Active members	
Fully vested	45,491
Non-vested	23,154
Total	131,709

Members are eligible for full retirement benefits at age 60 with five or more years of actual or reciprocal service or at any age with 28 or more years of credited service. Members with 25 years of actual or reciprocal service who have not attained age 60 may receive an annuity reduced by 10/12 of 1% multiplied by the number of months by which the early retirement precedes the earlier of (1) completion of 28 years of credited service or (2) attainment of age 60. The normal retirement benefit, paid monthly, is determined based on (1) the member's final average salary (effective April 1, 1998, computed using highest three years' salary) and (2) the number of years of service.

NOTE 1: Summary of Significant Accounting Policies (Continued)

B. Plan Description (Continued)

ATRS has contributory and noncontributory plans. The contributory plan has been in effect since the beginning of ATRS. The noncontributory plan became available July 1, 1986. Acts 81 and 907 of 1999, effective July 1, 1999, require all new members under contract for 181 or more days to be contributory. Act 93 of 2007 allows any noncontributory member to make an irrevocable election to become contributory on July 1 of each fiscal year.

Disability retirement benefits are payable to members who are vested and demonstrate total and permanent incapacity to perform the duties of their position while in active employment. The disability annuity is computed in the same manner as the age and service annuity.

Survivor benefits are payable to qualified survivors upon the death of an active, vested member. Eligible spouse survivors receive a survivor annuity that is based on the member's years of service credit prior to their death, and minor child survivors receive a percentage of the member's highest salary earned. ATRS also provides a lump sum death benefit for active and retired members with 10 years of actual service. The amount for contributory members will be up to \$10,000 and up to \$6,667 for noncontributory members. The amount will be prorated for members who have both contributory and non-contributory service; however, members with 15 or more years of contributory service will receive the full \$10,000.

A cost of living adjustment (COLA) is payable on July 1 of each year to retirees, certain survivors, and annuity beneficiaries who received monthly benefits for the previous 12 months. The COLA is calculated by multiplying 100% of the member's base retirement annuity by 3%.

Act 1096 of 1995 created a teacher deferred retirement option plan (T-DROP) for members with 30 or more years of service credits. Act 1590 of 1999 allows for participation in the T-DROP after 28 years of credited service with a reduction of at least 6% but not more than 12% for each year under 30 years. Effective September 1, 2003, Act 992 of 2003 requires employers to make contributions on behalf of all members participating in T-DROP at rates established by the Board of Trustees. Member contributions and accumulation of service credit will cease once a member enters T-DROP. During participation in T-DROP, ATRS will credit the member account with plan deposits and interest. The plan deposits are the member's normal retirement benefit reduced by 1% for each year of service. For members who entered T-DROP prior to September 1, 2003, the reduction is 1/2 of 1% (.5%) for contributory service and 3/10 of 1% (.3%) for noncontributory service for each year above 30 years of service. The T-DROP account accrues interest at a variable rate that is set annually by the ATRS Board of Trustees. T-DROP deposits into member accounts cease at the completion of 10 years of participation in the program; however, a member may continue employment and will continue to receive interest on the account balance at the 10-year plus interest rate that is also set annually by the Board of Trustees. When T-DROP participation ceases, the member may receive the T-DROP distribution as a lump-sum cash payment or an annuity or may roll it over into another tax-deferred account. A member may also elect to defer all or part of the distribution into a T-DROP cash balance account held by ATRS.

C. Basis of Presentation - Fund Accounting

The accounting system is organized and operated on a fund basis. A *fund* is defined as a fiscal and accounting entity with a self-balancing set of accounts recording cash and other financial resources, together with all related liabilities and residual equities or balances and changes therein, which are segregated for purposes of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions, or limitations. The following types of funds, if applicable to this Agency, are recognized in the accompanying financial statements.

NOTE 1: Summary of Significant Accounting Policies (Continued)

C. Basis of Presentation - Fund Accounting (Continued)

Fiduciary Funds

<u>Trust and Agency Funds</u> –Trust and Agency Funds are used to report resources held by the Agency in a trustee capacity or as an agent for individuals, other governmental units, and other funds. These include Pension Trust Funds, Employee Health Trust Funds, Investment Trust Funds, Private-Purpose Trust Funds, and Agency Funds. The specific activity accounted for at this Agency includes the following:

Arkansas Teacher Retirement System Fiduciary Pension Trust Fund

D. Basis of Accounting

Basis of accounting refers to when revenues and expenditures or expenses are recognized and reported in the financial statements. The economic resources measurement focus and accrual basis of accounting are used in Fiduciary Fund financial statements. Under the accrual basis, contributions and other revenues are recognized when earned, and benefits, refunds, and other expenses are recorded when incurred.

E. Federal Income Tax Status

During the year ended June 30, 2018, ATRS was a qualified plan under 26 USC § 401(a) and was exempt from federal income taxes under 26 USC § 501(a).

F. Cash and Cash Equivalents

Cash and cash equivalents include demand accounts, imprest accounts, cash on hand, cash in State Treasury, all short-term instruments with maturities at purchase of 90 days or less, and deposits in the Short-Term Investment Fund (STIF). The STIF is created through daily sweeps of excess cash by the custodial bank into bank-sponsored commingled funds that are invested in U.S. Government and agency securities and other short-term investments.

G. Capital Assets

Capital assets purchased and in the custody of this Agency were recorded as expenditures at the time of purchase. Assets with costs exceeding \$5,000 and an estimated useful life exceeding one year are reported at historical cost, including ancillary costs (such as professional fees and costs, freight costs, preparation or setup costs, and installation costs). Gifts or contributions are generally recorded in the accounts at acquisition value at the time received. Acquisition value is the market value if the Agency would have purchased the item. Depreciation is reported based on a straight-line method, with no salvage value. Estimated useful lives generally assigned are as follows:

Assets:	<u>Years</u>
Equipment	5-20

Capital assets activity for the year ended June 30, 2018, was as follows:

	Beginning Balance	А	dditions	Ret	irements	Ending Balance
Fiduciary activities: Equipment Less: Accumulated depreciation	\$ 1,167,543 954,984	\$	32,317	\$	42,053 39,727	\$ 1,125,490 947,574
Fiduciary activities, net	\$ 212,559	\$	(32,317)	\$	2,326	\$ 177,916

NOTE 1: Summary of Significant Accounting Policies (Continued)

H. Deposits and Investments

Deposits

Deposits are carried at cost and consist of cash in bank, cash in State Treasury, and Short-Term Investment Funds. At June 30, 2018, these totals were \$21,991,301, \$1,338,390, and \$295,285,994, respectively. State Treasury Management Law governs the management of funds held in the State Treasury, and the Treasurer of State is responsible for ensuring these funds are adequately insured and collateralized.

<u>Custodial Credit Risk</u> – Custodial credit risk for deposits is the risk that, in the event of the failure of a depository institution, the Agency will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. The Agency has adopted the State Board of Finance Policy requiring the use of depository insurance and collateralization procedures to manage the risk that deposits may not be returned. As of June 30, 2018, \$4,896,068 of the Agency's bank balance of \$25,397,175 was exposed to custodial credit risk.

Investments

Ark. Code Ann. §§ 24-2-601 – 24-2-619 authorizes the ATRS Board of Trustees to have full power to invest and reinvest monies of ATRS and to hold, purchase, sell, assign, transfer, or dispose of any of the investments or investment proceeds in accordance with the prudent investor rule.

Each investment manager is required to invest within the specific guidelines and parameters set by the Board of Trustees. Asset allocation guidelines have been established as follows:

Asset Allocation	Minimum	Target	Maximum
Total equity	50.0%	55.0%	60.0%
Fixed income	13.0%	15.0%	17.0%
Alternatives	N/A*	5.0%	N/A*
Real assets***	N/A*	15.0%	N/A*
Private equity	N/A*	10.0%	N/A*
Cash equivalents	0.0%	0.0%	5.0%

^{*}Due to the illiquid nature of alternatives, real assets, and private equity, it is not prudent to set rebalancing ranges for these asset classes.

<u>Fair Value</u> – ATRS implemented Governmental Accounting Standards Board (GASB) Statement No. 72, *Fair Value Measurement and Application*, which will enhance comparability of financial statements among governments by requiring a consistent and more detailed definition of fair value and by providing information to financial statement users about the impact of fair value measurements on the government's financial position.

The fair value measurement of investments is categorized within the hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. In instances where inputs used to measure fair value fall into different levels, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation.

^{**}Additional allocations to total equity may be made beyond the maximum range to serve as a placeholder for unfunded and uncommitted alternatives, real assets, and private equity.

^{***}Real assets include real estate, timber, agriculture, and infrastructure.

NOTE 1: Summary of Significant Accounting Policies (Continued)

H. Deposits and Investments (Continued)

The hierarchy of inputs is defined as follows:

- Level 1 Unadjusted quoted prices for identical instruments in active markets.
- Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.
- Level 3 Valuations derived from valuation techniques in which significant inputs are unobservable.

For investments that do not have a readily determinable fair value and fall outside of the fair value hierarchy, the system establishes the value by utilizing the Net Asset Value (NAV) or its equivalent as a practical expedient.

The fair value measurement of plan investments and securities lending collateral as of June 30, 2018, was as follows:

 Total		Level 1		Level 2		Level 3
\$ 2,849,080,788	\$	2,849,080,788				
961,598,275		961,598,275				
7,841,258			\$	7,841,258		
777,231,513				724,598,738	\$	52,632,775
42,042,694				42,042,694		
70,411,826						70,411,826
57,238,826						57,238,826
208,000,000				208,000,000		
974,088				974,088		
7,488				7,488		
4,974,426,756	\$	3,810,679,063	\$	983,464,266	\$	180,283,427
745.935.461						
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2.077.355.724						
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, ,						
12,185,599,268						
\$ 17,160,026,024						
\$ 506,400,660						
\$	\$ 2,849,080,788 961,598,275 7,841,258 777,231,513 42,042,694 70,411,826 57,238,826 208,000,000 974,088 7,488 4,974,426,756 745,935,461 4,281,998,415 976,131,446 1,037,620,563 2,077,355,724 1,308,515,842 269,203,647 198,565,615 190,268,021 260,719,546 694,543,747 35,485,157 109,256,084 12,185,599,268 \$ 17,160,026,024	\$ 2,849,080,788 \$ 961,598,275 7,841,258 777,231,513 42,042,694 70,411,826 57,238,826 208,000,000 974,088 7,488 4,974,426,756 \$ 745,935,461 4,281,998,415 976,131,446 1,037,620,563 2,077,355,724 1,308,515,842 269,203,647 198,565,615 190,268,021 260,719,546 694,543,747 35,485,157 109,256,084 12,185,599,268 \$ 17,160,026,024	\$ 2,849,080,788 961,598,275 7,841,258 777,231,513 42,042,694 70,411,826 57,238,826 208,000,000 974,088 7,488 4,974,426,756 \$ 3,810,679,063 745,935,461 4,281,998,415 976,131,446 1,037,620,563 2,077,355,724 1,308,515,842 269,203,647 198,565,615 190,268,021 260,719,546 694,543,747 35,485,157 109,256,084 12,185,599,268 \$ 17,160,026,024	\$ 2,849,080,788	\$ 2,849,080,788 \$ 2,849,080,788 961,598,275 7,841,258 \$ 7,841,258 777,231,513 724,598,738 42,042,694 42,042,694 70,411,826 57,238,826 208,000,000 208,000,000 974,088 974,088 7,4	\$ 2,849,080,788

^{*}Cash collateral received totaled \$506,308,705. The amount reported in the GASB 40 footnote above is the market value of the collateral receive at June 30, 2018.

NOTE 1: Summary of Significant Accounting Policies (Continued)

H. Deposits and Investments (Continued)

Cash equivalents invested in short-term investment funds are valued at amortized cost, which approximates fair value. The fund may issue and redeem shares at any time.

Equity investments are classified as Level 1 are exchange-traded securities whose values are based on published market prices and quotations from either national security exchanges or active markets for those securities.

Fixed income investments are classified as Level 2 and include publicly traded securities in inactive markets. Investments in this category are sourced from reputable pricing vendors using price matrix models and techniques. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Fair value is defined as the quoted market value on the last trading day of the period.

Real estate and partnerships are classified as Level 3 and are comprised mostly of owned properties leased to commercial enterprises. These investments are valued using professional property valuations or appraisals, net of debt borrowed against the related assets. Appraisals and valuations are updated every three years.

Derivative investments include forward contracts and rights, are classified as Level 2, and are valued using observable exchange, dealer, or broker market pricing.

Pooled and alternative investments generally do not have readily obtainable market values and are valued using the net asset value (NAV) per share (or its equivalent). These values are based on the capital account balance of the general partner reports at the end of each reporting period, adjusted by subsequent contributions, distributions, management fees, and changes in values of foreign currency. There are inherent uncertainties in estimating fair values for these types of investments, and it is possible that the estimates will change in the near-term or the subsequent sale of assets will be different from the reported net asset value. Generally, the investments cannot be redeemed or have certain redemption restrictions, and distributions are from the liquidation of the underlying assets. The expected holding period is dependent on the discretion of the fund manager.

The valuation for investments measured at the net asset value (NAV) per share (or its equivalent) is presented in the following table (pages 13-28):

Net Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Pooled Investments						
Commingled domestic equities						
AlianzGl Structured Alpha U.S. Equity 250, LLC	Commingled domestic equity	To outperform the S&P 500 Index by 250 basis points by investing in futures, cash instruments, exchange-traded funds, and equity swaps or securities.	\$ 159,039,871	\$ -	Monthly	Notification by 5th day of month of withdrawal for withdrawal on last day of month.
Jacobs Levy 130-30 Core 3 Fund, LLC	Commingled domestic equity	To outperform the Russell 3000 Index and provide long-term capital appreciation by investing in long and short positions in U.S. equities.	586,895,590	-	Monthly	Notification of at leas 5 days for withdrawa on last day of month.
Commingled international equities						
AllianzGI Structured Alpha Global Equity 500, LLC	Commingled international equity	To outperform the MSCI ACWI Investable Market Index by 500 basis points by investing in futures, cash instruments, exchange-traded funds, and equity swaps or securities.	784,974,955	-	Monthly	Notification by 5th day of month of withdrawal for withdrawal on last day of month.
AllianzGl Structured Alpha Global Equity 350, LLC	Commingled international equity	To outperform the MSCI ACWI Investable Market Index by 350 basis points by investing in futures, cash instruments, exchange-traded funds, and equity swaps or securities.	260,868,600	-	Monthly	Notification by 5th day of month of withdrawal for withdrawal on last day of month.
BlackRock MSCI ACWI IMI Index Fund	Commingled international equity	To approximate the performance of the MSCI ACWI Investable Market Index.	102,299,309	-	Daily	2 days
D.E. Shaw World Alpha Extension Fund, LLC	Commingled international equity	To outperform the MSCI ACWI using publicly traded equities.	672,569,307	-	Daily	10 days
GMO Global Equity Allocation Fund III	Commingled international equity	To outperform the MSCI ACWI using a fund of funds approach in which the manager invests primarily in U.S. and non-U.S. equities using multi-year forecasts.	397,368,907	-	Daily	Daily
Pershing Square International, Ltd	Commingled international equity	To preserve capital and achieve long term capital appreciation through investment in long and short positions in equity and debt securities of public U.S. and non-U.S. issuers.	92,206,099	-	Quarterly	65 days
State Street MSCI ACWI Investable Market Index Securities Lending Fund	Commingled international equity	To approximate the performance of the MSCI ACWI Investable Market Index.	1,452,389,071	-	Last business day of each month.	15 days
VOYA Absolute Alpha MSCI ACWI Trust Fund	Commingled international equity	To outperform the MSCI ACWI Index using a fund of funds approach in which the manager invests in other collective trust funds, pooled vehicles and derivatives.	519,322,167	-	Daily	Daily, 30 days for large redemptions
Commingled domestic fixed income						
BlackRock U.S. Core Bond Fund	Commingled domestic fixed income	To maximize total return by investing substantially all of its assets in a portfolio of U.S. fixed income securities with an average effective duration within 30% of the duration of the Barclays U.S. Aggregate Bond Index.	374,678,274	-	Daily	2 days
State Street U.S. Aggregate Bond Index Non-Lending Fund	Commingled domestic fixed income	To approximate the performance of the Barclays U.S. Aggregate Bond Index by investing in other collectively managed investment funds.	601,453,172	-	Daily	15 days

Net Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
•	,,	0, ,				
Pooled Investments (Continued)						
Commingled international fixed income						
Loomis Sayles Full Discretion Institutional Securitized Fund	Commingled international fixed income	To generate current income and achieve long term performance by investing in a diversified portfolio of multisector global fixed income investments of various durations and credit qualities.	\$ 36,969,770	\$ -	Daily	1 day
Putnam Absolute Return Fixed Income Fund	Commingled international fixed income	To provide a total return of 8% over a full market cycle by investing in a diversified portfolio of global fixed income securities.	353,300,000	-	Monthly	10 days
Columbus Core Plus Bond Fund, LLC	Commingled international fixed income	To preserve capital and maximize total return by investing in bonds of various maturities issued by U.S. and non-U.S. public and private sector entities.	326,087,061	-	Monthly	3 days
Wellington CTF Global Total Return II	Commingled international fixed income	To generate excess returns over the Bank of America Merrill Lynch 3 month T-Bill Index on a total return basis.	321,263,732	-	Daily	Daily
Alternative Investments						
Private equity funds						
Advent International GPE VI-A, LP	Buyout	To provide risk capital for and make investments in the securities of privately held and publicly listed companies in all stages of development in Europe and North America.	20,440,016	-	N/A	N/A
Altaris Constellation Partners, LP	Buyout	To invest in mid-size healthcare companies that provide products and services which improve patient outcomes, increase efficiency, eliminate unnecessary costs and align stakeholder incentives.	17,339,204	3,774,611	N/A	N/A
Altaris Health Partners IV, LP	Buyout	To primarily invest in mid-size healthcare companies that provide products and services which improve patient outcomes, increase efficiency, eliminate unnecessary costs and align stakeholder incentives.	4,962,067	18,951,088	N/A	N/A
Altus Capital Partners II, LP	Buyout	To make acquisitions of small, profitable manufacturing companies in the U.S. with highly-engineered manufacturing processes and products and leading niche market positions.	11,647,529	4,943,433	N/A	N/A
American Industrial Partners Capital Fund VI, LP	Buyout	To realize short-term and long-term capital appreciation through investments in North American-based industrial companies.	12,022,390	7,920,419	N/A	N/A
Arlington Capital Partners IV, LP	Buyout	To target control private equity investments in middle- market companies that operate in government- regulated and adjacent industries.	10,503,197	13,026,336	N/A	N/A
Atlas Capital Resources II, LP	Turnaround	To achieve long-term appreciation through acquisition of controlling interests in middle market companies undergoing financial distress or operational stress.	10,765,347	7,480,763	N/A	N/A
Audax Mezzanine Fund III, LP	Mezzanine	To achieve current income and long-term capital appreciation by investing in subordinated debt or debt-like securities that have conversion features or other rights or enhancements.	7,633,641	2,035,715	N/A	N/A

Net Asset Value (NAV) Investments	Туре	Strategy/Objective		NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
ternative Investments (Continued)							
Private equity funds (Continued)							
Big River Steel Holdings, LLC	Infrastructure	To invest in the equity and debt of Big River Steel's steel-making enterprise and to receive equity allocations and interest.	\$ 3	376,425,960	\$ -	N/A	N/A
Bison Capital Partners V, LP	Structured Capital	To provide capital to successful businesses for growth initiatives such as capacity expansion, new product introduction, investment in sales and marketing, or for other accretive purposes.		12,990,825	22,482,648	N/A	N/A
Boston Ventures Investment Partners, LP Fund VII	Buyout	To identify and execute control-oriented equity investments in middle-market media, information and publishing, entertainment, and communications companies, primarily in North America.		19,395,894	8,346,424	N/A	N/A
Boston Ventures Investment Partners, LP Fund VIII	Buyout	To identify and execute control-oriented equity investments in lower middle market information and business services and communications companies, largely in North America.		26,945,351	3,833,720	N/A	N/A
Boston Ventures Investment Partners, LP Fund IX	Buyout	To identify and execute control-oriented equity investments in lower middle market business services and information technology and communications services companies, largely in North America.		407,327	28,697,548	N/A	N/A
Castlelake II, LP	Distressed Debt	To make and dispose of investments in the distressed credit and distressed asset markets with the objective of achieving risk-adjusted rates of return.		20,761,398	2,625,461	N/A	N/A
Castlelake III, LP	Distressed Debt	To make and dispose of investments in the distressed credit and distressed asset markets with the objective of achieving risk-adjusted rates of return.		24,217,051	1,864,884	N/A	N/A
Clearlake Capitol Partners V, LP	Buyout	To invest in both debt and equity in distressed and special situations while providing downside protection and preservation of investment principal and creating significant upside potential in order to maximize risk- adjusted returns.		7,333,329	23,399,538	N/A	N/A
Court Square Capital Partners III, LP	Buyout	To invest in and maximize value creation within middle market businesses in the business services, general industrial, healthcare, and technology and telecommunications sectors.		24,046,710	12,184,550	N/A	N/A
Cypress Escrow Agent, LLC	Buyout	To achieve long-term capital appreciation through equity-oriented investments acquired in connection with privately negotiated transactions.		27,648	-	N/A	N/A
Diamond State Ventures II, LP	Multi-Strategy	To provide capital appreciation potential by investing primarily in private placements of subordinated debt, preferred stock and related equity securities of small businesses in the expansion and later stages of development.		5,772,532	483,000	N/A	N/A
DLJ Investment Partners II, LP	Mezzanine	To invest in securities primarily of companies headquartered in the United States, whether or not such securities are readily marketable.		138,490	-	N/A	N/A

Net Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Iternative Investments (Continued)						
Private equity funds (Continued)						
Doughty Hanson & Co Technology Fund	Multi-Strategy	To make equity and other investments in technology and related growth industry entities which are headquartered, operating in, or seeking to expand in Europe.	\$ 459,650	\$ -	N/A	N/A
DW Healthcare Partners III, LP	Buyout	To make control or near-control investments in profitable companies in the specialty medical device, distribution, and healthcare service sectors.	20,853,956	4,305,637	N/A	N/A
DW Healthcare Partners IV, LP	Buyout	To make control or near-control investments in profitable companies in the specialty medical device, distribution, and healthcare service sectors.	25,503,705	10,839,201	N/A	N/A
EnCap Energy Capital Fund VIII, LP	Hard Assets	To provide partners with an opportunity to participate in privately negotiated equity and equity-related investments in the upstream and midstream independent oil and gas sector of North America.	16,428,762	4,457,146	N/A	N/A
EnCap Energy Capital Fund IX, LP	Hard Assets	To provide partners with an opportunity to participate in privately negotiated equity and equity-related investments in the upstream and midstream independent oil and gas sector of North America.	18,802,852	2,312,993	N/A	N/A
EnCap Energy Capital Fund X, LP	Hard Assets	To provide partners with an opportunity to participate in privately negotiated equity and equity-related investments in the upstream and midstream independent oil and gas sector of North America.	21,487,525	9,016,137	N/A	N/A
EnCap Energy Capital Fund XI, LP	Hard Assets	To provide partners with an opportunity to participate in privately negotiated equity and equity-related investments in the upstream and midstream independent oil and gas sector of North America.	2,333,523	32,089,196	N/A	N/A
Franklin Park International Fund 2011, LP	Buyout	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are investing in markets outside the United States.	17,688,369	3,301,102	N/A	N/A
Franklin Park International Fund 2012, LP	Buyout	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are investing in markets outside the United States.	17,284,859	9,972,250	N/A	N/A
Franklin Park International Fund 2013, LP	Buyout	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are investing in markets outside the United States.	12,204,860	10,212,139	N/A	N/A
Franklin Park International Fund 2014, LP	Buyout	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are investing in markets outside the United States.	16,795,347	13,224,985	N/A	N/A

Net Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Alternative Investments (Continued)						
Private equity funds (Continued)						
Franklin Park International Fund 2015, LP	Buyout	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are investing in markets outside the United States.	\$ 10,906,328	\$ 14,436,220	N/A	N/A
Franklin Park International Fund 2016, LP	Buyout	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are investing in markets outside the United States.	10,390,017	15,264,992	N/A	N/A
Franklin Park International Fund 2017, LP	Buyout	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are investing in markets outside the United States.	4,720,048	21,227,837	N/A	N/A
Franklin Park International Fund 2018, LP	Buyout	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are investing in markets outside the United States.	-	25,000,000	N/A	N/A
ATRS/FP Private Equity Fund, LP	Multi-Strategy	To generate returns over the long-term by investing in private equity opportunities through co-investments, next generation manager funds, and appraisal rights opportunities.	209,182,753	105,962,233	N/A	N/A
Franklin Park Venture Fund Series 2008, LP	Venture Capital	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are venture capital funds.	30,293,846	785,519	N/A	N/A
Franklin Park Venture Fund Series 2009, LP	Venture Capital	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are venture capital funds.	30,501,000	1,543,559	N/A	N/A
Franklin Park Venture Fund Series 2010, LP	Venture Capital	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are venture capital funds.	20,786,248	1,976,879	N/A	N/A
Franklin Park Venture Fund Series 2011, LP	Venture Capital	To seek to realize long-term compounded returns in excess of those available through conventional investments in the public equity markets by making private equity investments primarily in portfolio funds that are venture capital funds.	67,554,195	1,667,691	N/A	N/A

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et Asset Value (NAV) Investments	Туре	Strategy/Objective		NAV	Co	mmitments	Frequency	Period	
ternative Investments (Continued)									
Private equity funds (Continued)									
Franklin Park Venture Fund Series 2012, LP	Venture Capital	To seek to realize long-term compounded returns in	\$	32,707,869	\$	3,997,180	N/a	N/A	
		excess of those available through conventional	•	. , . ,	•	.,,			
		investments in the public equity markets by making							
		private equity investments primarily in portfolio funds							
		that are venture capital funds.							
Franklin Park Venture Fund Series 2013, LP	Venture Capital	To seek to realize long-term compounded returns in		23,671,460		4,009,486	N/A	N/A	
		excess of those available through conventional							
		investments in the public equity markets by making							
		private equity investments primarily in portfolio funds							
		that are venture capital funds.							
Franklin Park Venture Fund Series 2014, LP	Venture Capital	To seek to realize long-term compounded returns in		26,894,439		4,625,346	N/A	N/A	
		excess of those available through conventional							
		investments in the public equity markets by making							
		private equity investments primarily in portfolio funds							
		that are venture capital funds.							
Franklin Park Venture Fund Series 2015, LP	Venture Capital	To seek to realize long-term compounded returns in		18,667,504		8,893,520	N/A	N/A	
		excess of those available through conventional							
		investments in the public equity markets by making							
		private equity investments primarily in portfolio funds							
		that are venture capital funds.							
Franklin Park Venture Fund Series 2016, LP	Venture Capital	To seek to realize long-term compounded returns in		9,225,321		16,342,768	N/A	N/A	
		excess of those available through conventional							
		investments in the public equity markets by making							
		private equity investments primarily in portfolio funds							
		that are venture capital funds.							
Franklin Park Venture Fund Series 2017, LP	Venture Capital	To seek to realize long-term compounded returns in		1,644,880		23,249,283	N/A	N/A	
		excess of those available through conventional							
		investments in the public equity markets by making							
		private equity investments primarily in portfolio funds							
Facablia Dady Vantura Fund Carias 2040 LD	\/t	that are venture capital funds.		70.044		04.000.000	NI/A	NI/A	
Franklin Park Venture Fund Series 2018, LP	Venture Capital	To seek to realize long-term compounded returns in		73,314		24,926,686	N/A	N/A	
		excess of those available through conventional							
		investments in the public equity markets by making							
		private equity investments primarily in portfolio funds							
Greyrock Capital Group Investors IV, LP	Mezzanine	that are venture capital funds. To earn substantial capital appreciation and current		10,196,967		19.640.067	N/A	N/A	
Ordyrook Capital Group Investors IV, LF	MEZZAIIIIE	income primarily through investing in privately placed		10,130,307		10,040,007	IN/A	13/7	
		subordinated debt, preferred equity, and common							
		equity or equity-related securities acquired or							
		purchased in conjunction with such subordinated							
		debt.							
Grosvenor Capital Management - ATRS Private Equity	Multi-Strategy	To provide long-term returns by investing in a core		60,933,932		8,174,605	N/A	N/A	
Funds of Funds, LP (Series 2005-1)	Cualog,	group of high-quality private equity managers		-0,000,002		5,,000			
. 4.145 5 4.146, Er (001100 2000 1)		encompassing buyout, venture, and special situation.							
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let Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Iternative Investments (Continued)						
Private equity funds (Continued)						
Grosvenor Capital Management - ATRS Private Equity Funds of Funds, LP (Series 2006-1)	Multi-Strategy	To provide long-term returns by investing in a core group of high-quality private equity managers encompassing buyout, venture, and special situation.	\$ 126,202,481	\$ 61,806,435	N/A	N/A
Highland LLC	Hard Assets	To invest in the equity and debt of Highland's wood pellet production facility and to receive equity allocations and interest.	25,054,571	-	N/A	N/A
Insight Equity II, LP	Turnaround	To generate superior investment returns by acquiring and transforming underperforming, operationally- challenged or financially-distressed middle market companies.	25,861,396	2,118,334	N/A	N/A
Insight Equity Mezzanine I, LP	Mezzanine	To invest in mezzanine securities issued by underperforming, operationally-challenged or financially distressed middle market companies in which Insight has an equity investment.	6,593,175	607,745	N/A	N/A
J.F. Lehman Equity Investors III, LP	Buyout	To make primarily control equity investments in lower middle market companies in the defense, aerospace and maritime industries.	33,847,889	1,419,382	N/A	N/A
J.F. Lehman Equity Investors IV, LP	Buyout	To make primarily control equity investments in lower middle market companies in the defense, aerospace and maritime industries.	14,579,978	17,524,399	N/A	N/A
KPS Special Situations Fund III, LP	Turnaround	To seek significant capital appreciation by making controlling equity investments in companies across a diverse range of manufacturing industries experiencing a period of transition or challenged by the need to effect immediate and significant change.	17,047,682	15,019,534	N/A	N/A
KPS Special Situations Fund IV, LP	Turnaround	To seek significant capital appreciation by making controlling equity investments in companies across a diverse range of manufacturing industries experiencing a period of transition or challenged by the need to effect immediate and significant change.	8,616,890	16,021,978	N/A	N/A
Levine Leichtman Capital Partners V, LP	Structured Capital	To make debt and equity investments in middle market companies by purchasing senior debt, subordinated debt, preferred stock and common stock in growth companies.	19,097,040	3,258,499	N/A	N/A
Lime Rock Resources III-A, LP	Hard Assets	To seek long-term capital gains by acquiring, operating and improving lower-risk oil and natural gas properties in the United States.	26,902,887	574,168	N/A	N/A
LLR Equity Partners III, LP	Growth	To pursue an investment objective that emphasizes capital preservation while generating attractive equity returns in lower middle market growth companies in the Mid-Atlantic region.	20,577,469	4,357,033	N/A	N/A
Mason Wells Buyout Fund III, LP	Buyout	To make buyout investments of small and lower middle market companies in the specialty packaging and paper, engineered products and services, and outsourced business services sectors.	20,476,017	1,802,820	N/A	N/A

let Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period	
Iternative Investments (Continued)							
Private equity funds (Continued)							
Natural Gas Partners Natural Resources IX, LP	Hard Assets	To generate long-term capital gains through equity investments in companies engaged in the energy and resources related industries primarily in North American oil and gas companies.	\$ 856,067	\$ 384,617	N/A	N/A	
Natural Gas Partners Natural Resources X, LP	Hard Assets	To generate superior returns through investments in high-quality companies in the natural resources sector without having to rely on timing investments in conjunction with unpredictable commodity price and capital market cycles.	18,342,759	1,912,218	N/A	N/A	
Natural Gas Partners Natural Resources XI, LP	Hard Assets	To generate superior returns through investments in high-quality companies in the natural resources sector that can capitalize on opportunities to increase value without incurring significant risk of loss of invested capital.	31,143,495	5,350,726	N/A	N/A	
Natural Gas Partners Natural Resources XII, LP	Hard Assets	To generate superior returns through investments in high-quality companies in the energy industry that can capitalize on opportunities to increase value without incurring significant risk of loss of invested capital.	6,297,679	23,875,975	N/A	N/A	
Oak Hill Capital Partners I, LP	Buyout	To make control (primarily private equity) investments in operating companies through acquisitions, build-ups, recapitalizations, restructurings, or significant minority stakes.	102,578	-	N/A	N/A	
One Rock Capital Partners II, LP	Buyout	To seek long-term capital appreciation by acquiring, holding, financing, refinancing and disposing of securities, primarily through privately negotiated equity and equity-related investments in persons operating primarily in the United States and Canada.	8,643,432	21,075,494	N/A	N/A	
PineBridge Structured Capital Partners III, LP	Structured Capital	To make structured capital investments (an enhanced mezzanine strategy that prioritizes safety and investment income) in privately-owned small and middle-market companies in North America.	15,077,157	15,937,231	N/A	N/A	
Riverside Fund IV, LP	Buyout	To invest primarily in control-oriented equity investments in established lower middle market companies with a focus on profitable healthcare and technology companies.	17,158,416	10,099,013	N/A	N/A	
Riverside Fund V , LP	Buyout	To invest primarily in control-oriented equity investments in established lower middle market companies based in North America, with a focus on profitable healthcare and technology companies.	35,975,611	5,417,500	N/A	N/A	
Siris Partners III, LP	Buyout	To make primarily control-oriented private equity, equity-related and similar investments in complex, middle-market technology companies.	21,571,712	8,439,920	N/A	N/A	
Siris Partners IV, LP	Buyout	To make primarily control-oriented, private equity, equity-related and similar investments in middle-market, legacy technology companies in transition that have embedded next-generation assets and are primarily located in North America.	-	30,000,000	N/A	N/A	

et Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
ernative Investments (Continued)						
Private equity funds (Continued)						
Sycamore Partners II, LP	Turnaround	To make investments in growth oriented industries and change intensive companies across multiple sectors using a wide range of sizes and types of transactions structures.	\$ 17,482,966	\$ 6,188,593	N/A	N/A
Sycamore Partners III, LP	Turnaround	To invest in middle-market and large enterprise companies at attractive valuations where there is a clear opportunity to create value by improving profitability.	-	24,750,000	N/A	N/A
TA Associates XI, LP	Growth	To achieve first quartile capital appreciation with relatively modest risk by originating investments in profitable, private middle-market companies in growth industries.	27,611,380	700,000	N/A	N/A
Tennenbaum Opportunities Fund VI, LP	Distressed Debt	To invest in distressed securities (primarily corporate debt) of financially challenged companies that have strong, enduring business franchises either before or after Chapter 11 bankruptcy and then influence or lead the restructuring process.	19,184,561	15,335,849	N/A	N/A
Thoma Bravo Discover Fund II, LP	Buyout	To create value by transforming successful businesses in fragmented, consolidating industry sectors into larger, more profitable and more valuable businesses through rapid operational improvements and strategic add-on acquisitions.	(53,905)	17,000,000	N/A	N/A
Thoma Bravo Discover Fund, LP	Buyout	To create value by transforming successful businesses in fragmented, consolidating industry sectors into larger, more profitable and more valuable businesses through rapid operational improvements and strategic add-on acquisitions.	10,373,434	2,522,291	N/A	N/A
Thoma Bravo Fund XI, LP	Buyout	To create value by transforming successful businesses in fragmented, consolidating industry sectors into larger, more profitable and more valuable businesses through rapid operational improvements and strategic add-on acquisitions.	30,351,542	2,286,609	N/A	N/A
Thoma Bravo Fund XII, LP	Buyout	To create value by transforming successful businesses in fragmented, consolidating industry sectors into larger, more profitable and more valuable businesses through rapid operational improvements and strategic add-on acquisitions.	21,058,615	11,083,475	N/A	N/A
Vista Equity Partners Fund III, LP	Buyout	To acquire controlling interests in middle-market enterprise software businesses and technology-enabled solutions companies.	13,963,410	4,021,632	N/A	N/A
Vista Foundation Fund II, LP	Buyout	To acquire controlling interests in lower middle-market and middle-market enterprise software businesses and technology-enabled solutions companies.	19,295,523	5,364,484	N/A	N/A
Vista Foundation Fund III, LP	Buyout	To acquire controlling interests in lower middle-market and middle-market enterprise software businesses and technology-enabled solutions companies.	12,778,604	16,795,230	N/A	N/A

let Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period	
ternative Investments (Continued)							
Private equity funds (Continued)							
Wellspring Capital Partners V, LP	Buyout	To focus on value-oriented, control investments in the middle market principally in North America employing the firm's extensive expertise in revitalizing undermanaged or underperforming companies.	\$ 17,677,73	1 \$ 16,239,345	N/A	N/A	
Wicks Capital Partners IV, LP	Buyout	To make privately negotiated control investments in the information, education, and media industries, primarily targeting lower middle market opportunities in the U.S. and Canada.	35,636,047	7 5,092,249	N/A	N/A	
WNG Aircraft Opportunities Fund II, LP	Special Assets	To primarily make investments in mid-life and older narrow body commercial aircraft manufactured by Boeing and Airbus and related aircraft components.	-	30,000,000	N/A	N/A	
Real estate funds							
Almanac Realty Securities V, LP	Value Added Closed End	To provide growth capital and organizational resources to private and public real estate operating companies with entity level debt and equity investments.	3,860,247	7 -	N/A	N/A	
Almanac Realty Securities VI, LP	Value Added Closed End	To provide growth capital and organizational resources to private and public real estate operating companies with entity level debt and equity investments.	10,838,975	5 4,500,000	N/A	N/A	
Almanac Realty Securities VII, LP	Value Added Closed End	To provide growth capital and organizational resources to private and public real estate operating companies with entity level debt and equity investments.	19,879,939	9 12,713,768	N/A	N/A	
Almanac Realty Securities VIII, LP	Value Added Closed End	To provide growth capital and organizational resources to private and public real estate operating companies with entity level debt and equity investments.	-	30,000,000	N/A	N/A	
Blackstone Real Estate Partners VII, LP	Opportunistic	To acquire distressed and/or undermanaged properties at below market prices, execute a strategy to fix the issues, and thereby create assets that can be sold to core real estate owners at higher values.	40,529,420	7,548,335	N/A	N/A	
Carlyle Realty Partners VII, LP	Opportunistic Closed End	To pursue a well-diversified portfolio of real estate investments primarily within the United States and focus on the current distressed real estate environment.	21,237,450	0 13,438,757	N/A	N/A	
Carlyle Realty Partners VIII, LP	Opportunistic Closed End	To pursue a broadly-diversified portfolio of U.S. real estate investments, largely focused on demographic- driven demand sectors while mitigating the fund's correlation to the GDP cycle.	47,585	5 24,503,288	N/A	N/A	
CB Richard Ellis Strategic Partners U.S. Opportunity Fund V, LP	Opportunistic Closed End	To purchase, reposition, develop, hold for investment and sell institutional quality real estate assets in the United States.	12,895,024	1,752,447	N/A	N/A	
CB Richard Ellis Strategic Partners U.S. Value 8, LP	Value Added Closed End	To purchase, reposition, lease and sell high-quality real estate in select U.S. markets, capitalizing on office recovery and evolution, multi-family demand, strong industrial absorption, dominance of experiential retail, and changing hospitality accommodation platforms.	13,845,473	3 12,282,232	N/A	N/A	

et Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period	
ternative Investments (Continued)							
Real estate funds (Continued)							
Cerberus Institutional Real Estate Partners III, LP	Opportunistic Closed End	To achieve a gross annual compounded internal rate of return between 17%-20% over a one to five year holding period in investments including distressed securities and assets, special situations, direct equity, first mortgage loans and bridge financings, and mezzanine debt and preferred equity.	\$ 20,164,648	\$ 7,307,395	N/A	N/A	
FPA Core Plus Bond Fund IV, LP	Core Closed End	To make direct investments in multifamily core-plus real estate throughout the U.S., primarily in markets where FPA has an established presence and experience.	-	30,000,000	N/A	N/A	
Harbert European Real Estate Fund IV	Value Added Closed End	To target institutional quality office, industrial, retail and select residential investments located in the major markets in Western Europe, particularly the UK, France and Spain.	24,652,146	5,136,403	N/A	N/A	
Heitman European Property Partners IV	Opportunistic Open End	To achieve long-term equity gains through the acquisition, development and re-development of real estate projects in Europe.	10,428,505	2,362,324	N/A	N/A	
JPMorgan Strategic Property Fund	Core	To invest primarily in equity and debt investments in various interests in improved real properties.	280,450,281	-	Quarterly	45 days	
Kayne Anderson Real Estate Partners V	Opportunistic Closed End	To achieve strong, risk-adjusted returns with low correlation to traditional equities and low volatility, by focusing on attractive niches (primarily senior housing and medical office, real estate and off-campus student/multi-family housing) within the real estate asset class.	6,457,799	18,750,000	N/A	N/A	
Landmark Real Estate Partners VI, LP	Opportunistic	The strategy for this fund of funds is to invest in seasoned secondary interests of primarily Value-Added and Opportunistic funds in order to achieve a net return to investors of 18-20%.	6,925,230	4,909,392	N/A	N/A	
Landmark Real Estate Partners VIII, LP	Opportunistic Closed End	To acquire interests in real estate funds, private real estate partnerships and other structured investment vehicles that own real estate and real estate related assets.	2,688,199	22,196,325	N/A	N/A	
LaSalle Asia Opportunity Fund IV	Opportunistic Closed End	To take advantage of attractive real estate fundamentals in the Pan-Asian region by focusing on the growing demand for Core real estate assets and targeting opportunities resulting from growth and cyclical recoveries.	13,811,515	11,080,298	N/A	N/A	
LaSalle Asia Opportunity Fund V	Opportunistic Closed End	To take advantage of attractive real estate fundamentals in the Pan-Asian region by focusing on the growing demand for Core real estate assets and targeting opportunities resulting from growth and cyclical recoveries.	1,552,584	28,305,711	N/A	N/A	
LaSalle Income and Growth Fund VI	Value Added Closed End	To focus on the current and growing demand for Core real estate assets by aggressively pursuing non-Core properties that can be leased, redeveloped or repositioned and later sold to Core buyers.	9,780,423	952,381	n/a	N/A	

et Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notic	
ternative Investments (Continued)							
Real estate funds (Continued)							
LaSalle Income and Growth Fund VII	Value Added Closed End	To focus on the current and growing demand for Core real estate assets by aggressively pursuing non-Core properties that can be leased, redeveloped or repositioned and later sold to Core buyers.	\$ 14,891,631	\$ 7,435,269	N/A	N/A	
Lone Star Real Estate Fund IV, LP	Opportunistic Closed End	To focus on acquiring assets in developed markets that exhibit economic distress in order to capitalize on market dislocations and acquire portfolios of assets at a significant discount.	15,892,495	6,030,749	N/A	N/A	
Long Wharf Real Estate Partners V	Value Added Closed End	To pursue a diversified portfolio of properties with a focus on acquiring assets at significant discounts to peak values with positive fundamental trends that offer the opportunity to increase returns through the execution of a value added strategy.	23,673,215	6,745,116	N/A	N/A	
MetLife Commercial Mortgage Income Fund, LP	Core Open End	To deliver consistent current income with risk-adjusted returns averaging 6-7% of the fund interest's net asset value over a 7-10 year market cycle and preserve principal by originating and managing a portfolio of institutional-quality commercial mortgage loans with high recovery and low loss rates.	-	50,000,000	Quarterly	90 days	
Metropolitan Real Estate Partners Co-Investment Fund, LP	Opportunistic Closed End	To seek to capitalize on current market imbalances and provide investors with access to both secondaries and coinvestments.	20,359,057	2,515,625	N/A	N/A	
New Boston Institutional Fund VII, LP	Value Added Closed End	To achieve above market risk-adjusted returns through a well-diversified portfolio that blends cash flow from acquisitions with high-yields from risk-averse developments.	641,333	-	N/A	N/A	
O'Connor North American Property Partners II	Opportunistic Closed End	To make real estate investments directly or indirectly through acquisitions interests in other partnerships, joint ventures, real estate mortgage investment conduits or real estate investment trusts assets.	12,533,351	5,000,000	N/A	N/A	
Olympus Real Estate Fund III, LP	Opportunistic Closed End	To make investments in a diversified portfolio of US real estate assets.	427,420	-	N/A	N/A	
Prudential Real Estate Investment Separate Account	Core Open End	To achieve a total return that exceeds the NCREIF Fund Index - Open-End Diversified Core Equity by focusing on acquiring and maintaining stabilized income-producing Core real estate assets.	289,820,213	-	Quarterly	90 days	
Rockwood Capital Real Estate Partners Fund IX, LP	Value Added Closed End	To focus on building a portfolio of U.S. real estate with a combination of strong in-place income and the potential for income growth through real estate related value creation activities.	12,912,730	4,081,464	N/A	N/A	
Torchlight Debt Opportunity Fund II, LP	Opportunistic Closed End	To focus on high yield real estate debt investments in both public and private markets and opportunistically invest across all real estate debt strategies including first-lien commercial mortgages, CMBS, mezzanine loans and commercial real estate backed CDO's.	6,074,338	-	N/A	N/A	

Net Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Alternative Investments (Continued)						
Real estate funds (Continued)						
Torchlight Debt Opportunity Fund III, LP	Opportunistic Closed End	To focus on high yield real estate debt investments in both public and private markets and opportunistically invest across all real estate debt strategies including first-lien commercial mortgages, CMBS, mezzanine loans and commercial real estate backed CDO's.	\$ 200,395	\$ -	N/A	N/A
Torchlight Debt Opportunity Fund IV, LP	Opportunistic Closed End	To focus on high yield real estate debt investments in both public and private markets and opportunistically invest across all real estate debt strategies including first-lien commercial mortgages, CMBS, mezzanine loans and commercial real estate backed CDO's.	18,640,001		N/A	N/A
Torchlight Debt Opportunity Fund V, LP	Opportunistic Closed End	To focus on high yield real estate debt investments in both public and private markets and opportunistically invest across all real estate debt strategies including first-lien commercial mortgages, CMBS, mezzanine loans and commercial real estate backed CDO's.	17,824,824	10,000,000	N/A	N/A
Torchlight Debt Opportunity Fund VI, LP	Opportunistic Closed End	To focus on high yield real estate debt investments in both public and private markets and opportunistically invest across all real estate debt strategies including first-lien commercial mortgages, CMBS, mezzanine loans and commercial real estate backed CDO's.	1,799,612	23,173,664	N/A	N/A
U.S. Real Estate Credit Fund III, LP	Value Added Closed End	To focus primarily on making senior secured loans on transitional commercial real estate properties located in primary and secondary markets of the U.S. in the less efficient mid-market lending space.	11,831,908	18,742,382	N/A	N/A
UBS Trumball Property Fund	Core Open End	To provide attractive returns by acquiring and managing high-quality real estate investments located throughout the United States.	277,600,887	-	Quarterly	60 days
UBS Trumball Property Income Fund	Core Open End	To build an actively managed portfolio of income- oriented real estate investments that have hybrid debt and equity return characteristics.	51,674,148	-	Quarterly	60 days
Westbrook Real Estate Fund IX, LP	Value Added Closed End	To target existing properties, principally located within a select few gateway markets (specifically U.S., London, Paris and Tokyo), that are in need of repositioning and/or have distressed capital structures.	22,208,864	3,603,488	N/A	N/A
Westbrook Real Estate Fund X, LP	Value Added Closed End	To target existing properties, principally located within a select few gateway markets (specifically U.S., London, Paris and Tokyo), that are in need of repositioning and/or have distressed capital structures.	9,463,977	16,856,882	N/A	N/A
Timberland funds						
American Timberland, LLC	Timber	To capitalize on the varying risk, return and liquidity characteristics found with forest life cycle stages and timberland markets.	269,203,647	24,891,933	N/A	N/A

Net Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Alternative Investments (Continued)	•					
Farmland funds						
U.S. Agriculture, LLC	Farmland	To identify and underwrite investment grade farmland properties and recommend acquisitions. To also manage and oversee properties to promote and produce period cash flow returns and capital gain profits.	\$ 144,415,707	\$ 13,779,007	Daily	30 days
UBS Agrivest Farmland Fund	Farmland Open End	To invest in a diversified portfolio of row, vegetable and permanent crop farmland in select major agricultural states.	54,149,908	-	Quarterly	60 days
Infrastructure funds						
Antin Infrastructure Partners II, LP	Infrastructure Closed End	To pursue a strategy of acquiring majority or control minority equity positions in brownfield infrastructure investments, with a predominant focus on continental Europe.	44,721,261	6,499,774	N/A	N/A
DIF Infrastructure V	Infrastructure Closed End	To target high quality, low-risk investments in PPP/concessions, renewable energy and infrastructure assets with a similar risk profile across mainly Europe, North America and Australasia.	8,883,133	38,223,170	N/A	N/A
First Reserve Energy Infrastructure Fund II, LP	Infrastructure Closed End	To make control investments in long lived energy infrastructure assets and businesses that have low risk profiles.	28,062,005	17,053,964	N/A	N/A
Global Infrastructure Partners III, LP	Infrastructure Closed End	To invest in core plus infrastructure assets in the energy, transport, and water/waste sectors.	27,752,858	24,530,491	N/A	N/A
IFM Global Infrastructure, LP	Infrastructure Open End	To invest in core infrastructure assets with a long investment horizon in OECD countries by targeting regulated, contracted and PPP assets.	-	50,000,000	N/A	90 days
KKR Global Infrastructure Investors II, LP	Infrastructure Closed End	To pursue global infrastructure investment opportunities with an emphasis on investments in existing assets and businesses located in OECD countries.	45,672,823	10,810,723	N/A	N/A
Macquarie Infrastructure Partners III, LP	Infrastructure Closed End	To invest and earn income directly and indirectly from infrastructure assets principally located in the United States and Canada.	35,175,942	12,845,807	N/A	N/A
Re-insurance funds						
Aeolus Property Catastrophe Keystone PF Fund, LP January 2016	Re-insurance	To achieve risk-adjusted returns by investing in collateralized reinsurance and retrocessional contracts primarily covering property catastrophe risk.	1,440,382	-	Annually	60 days
Aeolus Property Catastrophe Keystone PF Fund, LP January 2017	Re-insurance	To achieve risk-adjusted returns by investing in collateralized reinsurance and retrocessional contracts primarily covering property catastrophe risk.	37,578,588	-	Annually	60 days
Aeolus Property Catastrophe Keystone PF Fund, LP January 2018	Re-insurance	To achieve risk-adjusted returns by investing in collateralized reinsurance and retrocessional contracts primarily covering property catastrophe risk.	119,799,335	-	Annually	60 days
Aeolus Property Catastrophe Keystone PF Fund, LP Mid-year 2016	Re-insurance	To achieve risk-adjusted returns by investing in collateralized reinsurance and retrocessional contracts primarily covering property catastrophe risk.	2,631,793	-	Annually	60 days

Net Asset Value (NAV) Investments	Туре	Strategy/Objective		NAV	Unfu Commi	nded tments	Redemption Frequency	Redemption Notice Period	
Alternative Investments (Continued)	7.								
Re-insurance funds (Continued)									
Aeolus Property Catastrophe Keystone PF Fund, LP Mid-year 2017	Re-insurance	To achieve risk-adjusted returns by investing in collateralized reinsurance and retrocessional contracts primarily covering property catastrophe risk.	\$	14,995,658	\$	-	Annually	60 days	
Aeolus Property Catastrophe Keystone PF Fund, LP Mid-year 2018	Re-insurance	To achieve risk-adjusted returns by investing in collateralized reinsurance and retrocessional contracts primarily covering property catastrophe risk.		37,067,431		-	Annually	60 days	
Nephila Rubik Holdings Ltd	Re-insurance	To build a diverse portfolio of insurance risks through both traditional reinsurance contracts and insurance-based instruments, which collectively are priced to generate an acceptable rate of return in light of the risk being assumed.		47,206,359		-	Semi-annual (1 year lockup	90 days	
Hedge funds									
Anchorage Capital Partners, LP	Hedge Fund	To earn superior risk-adjusted returns while emphasizing preservation of capital by primarily investing in the leveraged issuer and distressed debt markets of North America and Europe and employing hedged investment strategies.		76,332,554		-	Quarterly	90 days	
Brevan Howard, LP	Hedge Fund	To generate consistent long-term appreciation through active leveraged trading and investment on a global basis by using a combination of macro and relative value strategies.		54,007,949		-	Monthly (5 year lockup)	90 days	
Capula Global Relative Value Fund Limited	Hedge Fund	To earn a consistent, absolute return on assets that is generally not correlated with the return on traditional investment strategies. This is to be achieved through a combination of relative value and macro strategies.		76,282,458		-	Quarterly	45 days	
Capital Fund Management Institutional Systematic Diversified Fund, LP	Hedge Fund	To achieve long-term capital appreciation through returns that seek to be uncorrelated with traditional asset classes.		98,542,893		-	Weekly	3 days	
Graham Global Investment Fund II SPC Limited	Hedge Fund	To achieve long-term capital appreciation through professionally managed trading in global fixed income, foreign exchange and other financial instruments.		59,168,813		-	Monthly	3 days	
Man Alternative Risk Premia SP Class A	Hedge Fund	To provide absolute returns in a cost-effective manner by allocating capital to affiliated portfolio managers through portfolio funds that primarily implement alternative risk premia investment strategies.		97,151,077		-	Weekly	3 days	
Parametric Global Defensive Equity Fund, LLC	Hedge Fund	To provide favorable performance relative to MSCI ACWI by employing a strategy that exchanges the global equity risk premium for an uncorrelated global volatility risk premium.		159,562,989		-	Monthly	5 days	
York Credit Opportunities Fund, LP	Hedge Fund	To achieve consistent risk-adjusted results independent of the overall equity market by investing in the securities of companies undergoing credit- oriented restructuring and reorganization.		73,495,014		-	Annually	60 days	

Net Asset Value (NAV) Investments	Туре	Strategy/Objective	NAV	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Alternative Investments (Continued)						
Opportunistic funds						
Circumference Group Core Value Fund, LP	Opportunistic	To generate above average returns with below market portfolio risk by investing in equity and equity-related securities of information technology, telecommunications, and business services companies with market capitalizations less than \$2 billion.	\$ 27,614,	93 \$ -	Quarterly	60 days
Circumference Group Equity Opportunity Fund, LP	Opportunistic Open End	To utilize the extensive operational experience of the management team to identify possible investments related to merger and appraisal right opportunities	7,870,	364 22,204,032	N/A	N/A
Partnership funds						
Trian Partners, LP	Partnership	To generate capital appreciation by investing in public companies that Trian believes trade significantly below their intrinsic values.	59,086,	663 -	Annually (5 year lockup)	90 days
Trian Partners Co-Investment Opportunities Fund, LP	Partnership	To identify companies whose securities prices can be improved through Trian's active influence.	50,169,	520 45,281,522	Quarterly (2 year lockup)	65 days
Total plan investments at net asset value			\$ 12,185,599,	268 \$ 1.625.931.691		

NOTE 1: Summary of Significant Accounting Policies (Continued)

H. Deposits and Investments (Continued)

<u>Securities lending collateral</u> – Cash collateral received from borrowers in the securities lending program are invested in a Quality D short-term investment fund that consists of a liquidating account with a liquidity pool and a duration pool. The value of this fund has been determined by the fund administrator using the NAV per share (or its equivalent).

<u>Rate of Return</u> – The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. For the year ended June 30, 2018, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 11.46%.

Interest Rate Risk – Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Investments can be highly sensitive to changes in interest rates due to their terms or characteristics. The Agency has not adopted a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates. The summary below indicates that 98% of the Agency's investment maturities are one year or longer.

Investment Type	Fair Value		Less than 1		1 - 5		6 - 10	 More than 10
U.S. Government obligations	\$ 7,841,25	3				\$	7,841,258	
Corporate obligations	777,231,51	3 \$	42,848,086	\$	339,220,172		287,113,155	\$ 108,050,100
Asset- and mortgage-backed securities	42,042,69	4			16,323,347		4,613,462	21,105,885
Pooled investments	2,013,752,00	9			711,533,502		1,302,218,507	
State recycling tax credits	208,000,00	<u> </u>	16,000,000		64,000,000		80,000,000	48,000,000
Total	\$ 3,048,867,47	4 \$	58,848,086	\$	1,131,077,021	\$	1,681,786,382	\$ 177,155,985
Securities Lending Collateral Quality D short term investment pool	\$ 506,400,66) \$	5 505,187,352			\$	1,213,308	

<u>Asset-Backed Securities</u> – As of June 30, 2018, ATRS held asset-backed securities with a fair value of \$36,981,990. These securities represent interests in various trusts consisting of pooled financial assets other than mortgage loans conveyed by the issuing parties. ATRS's ability to recover the amount of principal invested in these securities depends on the performance and quality of the trust assets. At June 30,2018, ATRS held no asset-backed securities that were considered highly sensitive to changes in interest rates.

Mortgage-Backed Securities – As of June 30, 2018, mortgage-backed securities had a fair value of \$3,090,568. The yields and maturities of mortgage-backed securities generally depend on when the underlying mortgage loan principal and interest are repaid. Although the full amount of principal will be received if prepaid, the interest income that would have been collected during the remaining period to maturity, net of any market adjustment, is lost. At June 30, 2018, no mortgage-backed securities were considered highly sensitive to changes in interest rates.

<u>Corporate Bonds</u> – As of June 30, 2018, ATRS held corporate bonds with a fair value of \$250,356,509. Corporate bonds are debt instruments that are issued by private corporations. These bonds have a term maturity and can have either a fixed or variable interest rate. Variable interest rate bonds have adjustments that are made periodically and vary directly with movements in interest rates. At June 30, 2018, ATRS held no corporate obligations that were considered highly sensitive to changes in interest rates.

NOTE 1: Summary of Significant Accounting Policies (Continued)

H. Deposits and Investments (Continued)

<u>Convertible Corporate Bonds</u> – As of June 30, 2018, ATRS held convertible bonds with a fair value of \$474,242,229. Convertible bonds convey an option to the bondholder to exchange each bond for a specified number of shares of common stock of the corporation. Convertible bonds generally offer lower coupon rates and promised yields to maturity in exchange for the value of the option to trade the bond into stock. At June 30, 2018, ATRS held no convertible corporate bonds that were considered highly sensitive to changes in interest rates.

<u>Promissory Notes</u> – ATRS also held three promissory notes with a fair value of \$52,632,775 at June 30, 2018. Promissory notes are written promises to pay a stated sum at a specified date or on demand. Two unsecured promissory notes were issued to Big River Steel Holdings, LLC, and one secured note was issued to Highland Pellets, LLC. ATRS held no promissory notes that were considered highly sensitive to changes in interest rates at June 30, 2018.

<u>Credit Risk</u> – Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. This risk is measured by the credit quality of investments in debt securities as described by nationally-recognized statistical rating organizations. The Agency has not adopted a formal investment policy that limits investment in debt securities based on their statistical rating as a means of managing exposure to credit risk. The Agency's exposure to credit risk as of June 30, 2018, is as follows:

Standard and P	oor's		Moody's Investors Service					
Rating		Fair Value	Rating		Fair Value			
AAA	\$	11,728,395	Aaa	\$	20,725,108			
AA		18,581,685	Aa		14,758,363			
A		59,221,558	Α		37,273,091			
BBB		146,137,954	Baa		104,074,212			
BB		101,759,953	Ва		89,343,446			
В		37,405,314	В		14,515,525			
CCC or below		25,897,216	Caa or below		3,320,840			
Unrated		2,648,135,399	Unrated		2,764,856,889			
Total	\$	3,048,867,474	Total	\$	3,048,867,474			
Securities Lending Collateral Unrated	\$	506,400,660	Unrated	\$	506,400,660			
Officio	Ψ	555,400,000	Official	Ψ	300,400,000			

<u>Custodial Credit Risk</u> – Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the Agency will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The Agency has not adopted a formal investment policy that requires the use of depository insurance and collateralization procedures to manage the risk that investments may not be returned for any investments other than loaned securities. At June 30, 2018, \$1,022,625 of the Agency's investments were exposed to custodial credit risk.

<u>Concentration of Credit Risk</u> – Concentration of credit risk is the risk of loss attributed to the magnitude of the Agency's investment in a single issuer. The Agency places no limit on the amount it may invest in any one issuer. As of June 30, 2018, none of the Agency's investments in any one issuer (other than those issued or guaranteed by the U.S. Government) represent more than 5% of total investments.

<u>Foreign Currency Risk</u> – Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit. The Agency has not adopted a formal investment policy that limits investment in foreign currency.

NOTE 1: Summary of Significant Accounting Policies (Continued)

H. Deposits and Investments (Continued)

The Agency's exposure to foreign currency risk in U.S. dollars for investments and deposits at June 30, 2018, was as follows:

				Investments		
Currency					Forward	
		Fair Value	Fixed Income	Equities	Contracts	Cash Deposits
Argentine Peso	ARS	\$ 4,155,946	\$ 3,874,080			\$ 281,866
Australian Dollar	AUD	14,367,404		\$ 14,367,404		
Brazilian Real	BRL	8,217,845		8,172,885		44,960
British Pound Sterling	GBP	291,324,060		288,583,883	\$ (615,270)	3,355,447
Canadian Dollar	CAD	31,450,460		31,450,410		50
Columbian Peso	COP	4,066,425	4,066,425			
Euro	EUR	204,393,921		203,618,030	604,479	171,412
Hong Kong Dollar	HKD	54,925,403		55,299,933	(374,531)	1
Indian Rupee	INR	474,879				474,879
Indonesian Rupiah	IDR	7,464,998		7,464,998		
Japanese Yen	JPY	131,989,630		125,438,435	5,983,530	567,665
Malaysian Ringgit	MYR	3,391,323		3,391,775		(452)
Mexican Peso	MXN	17,090,802	10,962,038	6,128,764		
New Taiwan Dollar	TWD	26,973,335		26,973,334		1
New Zealand Dollar	NZD	6,454,387		6,454,387		
Norwegian Krone	NOK	8,334,828		8,784,894	(450,066)	
South African Rand	ZAR	48,043,332	4,250,879	47,197,986	(3,405,533)	
South Korean Won	KRW	4,575,164		4,575,163		1
Swedish Krona	SEK	48,516,383		48,516,383		
Swiss Franc	CHF	61,696,463		74,460,868	(12,764,643)	238
Turkish Lira	TRY	718,743		718,743		
Totals		\$ 978,625,731	\$ 23,153,422	\$ 961,598,275	\$ (11,022,034)	\$ 4,896,068

For Forward Currency Contracts in the schedule above, a positive number represents the market value of contracts to purchase that currency in excess of the market value of contracts to sell that currency. A negative number, therefore, represents the market value of contracts to sell foreign currency in excess of contracts to purchase that currency.

<u>Derivatives</u> – Derivative instruments are financial contracts or agreements whose values depend on the values of one or more underlying assets, reference rates, and/or financial indexes. Derivative instruments include futures contracts, forward contracts, swap contracts, options contracts, forward foreign currency exchange, and rights. ATRS investment guidelines state that derivatives may be used to reduce the risk in a portfolio but should not be used to create a position of leverage or substantially increase the risk of the overall portfolio. Futures and options should be matched by cash or cash equivalent securities, and all short futures positions should be matched by equivalent long security positions. Each investment manager's derivative usage is specified in the investment management agreement or specific guidelines.

Forward Currency Contracts – ATRS enters into various currency contracts to manage exposure of foreign portfolio holdings to changes in foreign currency exchange rates. A forward exchange contract is a commitment to purchase or sell a foreign currency at a future date at a negotiated forward rate. Risks associated with such contracts include movement in the value of the foreign currency relative to the U.S. dollar and the ability of the counterparty to perform. The contracts are valued at forward exchange rates, and the changes in value of open contracts are recognized as unrealized appreciation/depreciation in the statement of changes in plan net position. The realized gain or loss on closed forward currency contracts represents the difference between the value of the original contracts and the closing value of such contracts and is included in net appreciation (depreciation) in fair value of investments in the statement of changes in plan net position. At June 30, 2018, ATRS had outstanding forward exchange currency contracts to purchase foreign currencies with contract amounts of \$8,798,622 and market values of \$8,753,617, resulting in a net loss of \$45,005. Outstanding forward exchange currency contracts to sell foreign currencies with contract amounts of \$20,794,744 had market values of \$19,775,650, resulting in a net gain of \$1,019,094.

NOTE 1: Summary of Significant Accounting Policies (Continued)

H. Deposits and Investments (Continued)

The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2018, classified by type, and the changes in fair value of such derivative instruments for the year then ended, as reported in the 2018 financial statements, are as follows:

	Changes in Fair Value			Fair Value at	June			
	Classification		Amount	Classification		Amount		Notional
Fiduciary funds								_
Derivative investm	ents:							
Foreign currency								
forwards	Investment revenue	\$	(289)				CAD	
	Investment revenue		950,062	Investments	\$	656,525	CHF	12,948,000
	Investment revenue		(2,502)				EUR	
	Investment revenue		(4,620)	Investments		(4,625)	GBP	466,025
	Investment revenue		(41)	Investments		(41)	HKD	2,938,363
	Investment revenue		(7,093)	Investments		2,033	JPY	139,086,046
	Investment revenue		3,234				MXN	
	Investment revenue		(899)	Investments		(899)	NOK	3,668,221
	Investment revenue		423				SEK	
	Investment revenue		(30,843)	Investments		(45,006)	USD	8,798,622
	Investment revenue		366,101	Investments		366,101	ZAR	54,385,000
		\$	1,273,533		\$	974,088		
Rights	Investment revenue	\$	7,488	Investments	\$	7,488		299,500

Securities Lending Transactions - Arkansas Code Annotated and Board policy permit ATRS to participate in a securities lending program administrated by State Street Bank (the "Custodian"). The Custodian enters into agreements with broker-dealers or other entities to loan securities for collateral and have the same securities redelivered in the future. There were no restrictions on the dollar amount of securities loaned by ATRS. Securities on loan to participating brokers at year-end include U.S. Government securities, corporate securities, and international securities. Brokers who borrow the securities provide cash or other collateral, including securities issued or guaranteed by the U.S. Government. Collateral must be provided in the amount of at least 100% of the market value of the loaned securities. ATRS cannot pledge or sell collateral securities received unless the borrower defaults. The cash collateral received on each loan is invested in a collective investment fund comprised of a liquidity pool and a duration pool. As of June 30, 2018, the liquidity pool had an average duration of 27.21 days and an average weighted final maturity of 113.66 days for USD collateral. The duration pool had an average duration of 19.63 days and an average weighted final maturity of 1,999.35 days for USD collateral. Because the loans were terminable at will, their duration did not generally match the duration of the investments made with cash collateral. At yearend. ATRS had no credit risk exposure to borrowers due to the custodian's indemnification. The custodian indemnified ATRS by agreeing to purchase replacement securities or return cash collateral in the event a borrower failed to return a loaned security or failed to pay the trust funds for income of the securities while on loan. No borrowers failed to return loaned securities or pay distributions during the year. Investments made with cash collateral appear as an asset on the Statement of Plan Net Position. Corresponding liabilities are recorded, as ATRS must return the cash collateral to the borrower upon expiration of the loan. ATRS is exposed to investment risk, including the possible loss of principal value in the cash collateral pool, due to fluctuation in the market value of the assets held by the cash collateral pool. As of June 30, 2018, the fair value of the securities lending assets exceeded the securities lending liabilities by \$91,955.

NOTE 1: Summary of Significant Accounting Policies (Continued)

I. Contributions

The Agency's funding policy provides for periodic employer contributions at statutorily-established rates based on annual actuarial valuations. The employer contribution rate was 14% for the fiscal year ending June 30, 2018. Contributory members are required to contribute 6% of gross wages to ATRS. Employee contributions are refundable if ATRS-covered employment terminates before a monthly benefit is payable. Employee contributions remaining on deposit with ATRS for a period of one or more years earn interest credits, which are included in the refund.

J. Reserves

In accordance with the provisions of Ark. Code Ann. § 24-7-405, ATRS must maintain reserve accounts showing net assets available for benefits. At June 30, 2018, the reserve accounts were funded at a level that complied with the code provisions.

	 l otal
Members' deposit account reserve	\$ 11,042,863,095
Employers' accumulation account reserve	(5,509,752,789)
Retirement reserve	11,378,864,909
Teacher deferred retirement option plan account reserve	468,456,672
Survivor benefit account reserve	102,835,207
Income - expense account reserve	 9,360,646
Total	\$ 17,492,627,740

The Code provisions define each of the reserve accounts as follows:

Members' Deposit Account Reserve – The account in which members' contributions shall be accumulated with regular interest and from which shall be made transfers and refunds of contributions.

Employers' Accumulation Account Reserve – The account in which shall be accumulated the employer's contributions to ATRS and from which shall be made transfers as provided in the code.

Retirement Reserve – The account from which shall be paid all annuities and benefits in lieu of annuities payable as provided in this act to retirants who retired on account of superannuation or disability and to beneficiaries of such retirants.

Teacher Deferred Retirement Option Plan Account Reserve – The account in which shall be accumulated plan deposits made on behalf of the member with plan interest.

Survivor Benefit Account Reserve – The account from which shall be paid survivor benefits payable as provided in this act.

Income - Expense Account Reserve - The account to which shall be credited all investment income from invested assets of ATRS. It shall also be the account in which shall be accumulated the contributions made by employers for the administrative expenses of ATRS, from which shall be made annual transfers of interest credits and excess amounts to the other accounts of ATRS, and from which shall be paid all the expenses of the Board necessary for the administration and operation of ATRS.

NOTE 1: Summary of Significant Accounting Policies (Continued)

K. Net Pension Liability

The components of the net pension liability of the participating employers at June 30, 2018, were as follows:

 Total pension liability
 \$ 21,131,589,859

 Plan net position
 (17,492,627,740)

 Net pension liability
 \$ 3,638,962,119

Plan net position as a percentage of the total pension liability

82.78%

<u>Actuarial Assumptions</u> – The total liability was determined by an actuarial valuation as of June 30, 2018, using the following actuarial assumptions, applied to all prior periods included in the measurement:

Wage inflation rate 2.75%
Salary increases 2.75 - 7.75%
Investment rate of return 7.50%

Mortality rates were based on the RP-2014 Mortality Tables for Males and Females adjusted using projection scale MP-2017 Table from 2006.

The actuarial assumptions used in the June 30, 2018, valuation were based on the results of an actuarial experience study for the period July 1, 2010 through June 30, 2015.

The long-term expected rate of return on pension plan investments was determined using a buildingblock method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return were adopted by the plan's trustees after considering input from the plan's investment consultant and actuary.

For each major asset class that is included in the pension plan's target asset allocation as of June 30, 2018, these best estimates are summarized in the following table:

Asset Allocation	Target	Long-Term Expected Real Rate of Return
Total equity	55.0%	4.9%
Fixed income	15.0%	1.2%
Alternatives	5.0%	4.3%
Real assets	15.0%	4.2%
Private equity	10.0%	6.0%
Cash equivalents	0.0%	0.3%
	100.0%	

NOTE 1: Summary of Significant Accounting Policies (Continued)

K. Net Pension Liability (Continued)

<u>Single Discount Rate</u> – A single discount rate of 7.50% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.50%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be 14% of payroll. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of 7.50%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1% lower or 1% higher:

Sensitivity of the Net Pension Liability to the Single Discount

	1	1% Decrease Current Rat		Current Rate	1% Increase		
		6.50%		7.50%		8.50%	
Net pension liability	\$	6,241,311,395	\$	3,638,962,119	\$	1,480,855,759	

L. Compensated Absences – Employee Leave

Annual leave is earned by all full-time employees. Upon termination, employees are entitled to receive compensation for their unused accrued annual leave up to 30 days. Liabilities for compensated absences are determined at the end of the year based on current salary rates.

Sick leave is earned by all full-time employees and may be accrued up to 120 days. Compensation up to a maximum of \$7,500 for unused sick leave is payable to employees upon retirement.

Compensated absences are reported in the State's "Government-Wide" financial statements but are not reported as liabilities or expenditures in the governmental funds. However, the compensated absences payable attributable to this Agency's employee annual and sick leave as of June 30, 2018 and 2017, amounted to \$533,706 and \$547,824, respectively. The net changes to compensated absences payable during the year ended June 30, 2018, amounted to \$14,118.

NOTE 2: Other Post-Employment Benefits (OPEB)

Arkansas State Employee Health Insurance Plan (Plan)

<u>Plan Description</u> – The Department of Finance and Administration – Employee Benefits Division (DFA-EBD) provides medical and prescription drug benefits for eligible state employees and retirees. Policies for DFA-EBD related to medical and prescription drug plans are established by State and Public School Life and Health Insurance Board (Board) and may include ad hoc benefit changes or annual cost redeterminations. For the current year, no ad hoc or cost redetermination changes occurred. The Constitution of Arkansas, Article 5, vests the General Assembly with legislative power to enact and amend duties of and benefit provisions of the board and DFA-EBD, respectively, as published in Subchapter 4, Chapter 5 of Title 21 of the Arkansas Code Annotated. DFA-EBD is included in the State of Arkansas's Comprehensive Annual Financial Report that includes all applicable financial information, notes, and required supplementary information. That report may be obtained by writing to Department of Finance and Administration, 1509 West Seventh Street, Suite 403, Little Rock, Arkansas 72201 or by calling 1-501-682-1675.

NOTE 2: Other Post-Employment Benefits (OPEB) (Continued)

Arkansas State Employee Health Insurance Plan (Plan) (Continued)

The Agency contributes to the Plan, a single employer defined benefit OPEB plan administered by the DFA-EBD, on a monthly basis. The Board establishes medical and prescription drug benefits for three classes of individuals covered as follows: active employees, terminated employees with accumulated benefits, and retires and beneficiaries. The Plan is established on the basis of a pay-as-you-go financing requirement, and no assets are accumulated in a trust as defined by GASB Statement No. 75. The State's annual OPEB cost for the Plan is based on an actuarially-determined, calculated amount made in accordance with GASB Statement No. 75.

<u>Funding Policy</u> – Employer contribution for the Plan are established by Ark. Code Ann. § 21-5-414 not to exceed \$450 per budgeted position. Employees, retirees, and beneficiaries contribute varying amounts based on the type of coverage and inclusion of family members. Retirees that are Medicare eligible will have their benefits coordinated with Medicare Part A and B with the Plan being the secondary payer. The portion of the State's annual OPEB liability attributable to ATRS as of June 30, 2018, is \$5.387.621

NOTE 3: Required Supplementary Schedules

Detailed historical information about the pension liabilities for which the pension plan's assets are being held and managed and the significant assumptions used to measure these liabilities are required supplementary information. This required supplementary information, prepared in accordance with the parameters of GASB Statement No. 67, is included immediately following the notes to the financial statements.

ARKANSAS TEACHER RETIREMENT SYSTEM SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS FOR THE TEN-YEAR PERIOD ENDED JUNE 30, 2018

	2018	2017	2016	2015	2014	2013*	2012*	2011*	2010*	2009*
TOTAL PENSION LIABILITY										
Service cost	\$ 315,864,318	\$ 307,786,503	\$ 305,086,337	\$ 298,134,477	\$ 326,999,276					
Interest	1,504,613,059	1,485,759,965	1,433,768,167	1,371,168,271	1,326,709,192					
Changes in benefit terms		(469,205,711)			(27,405,705)					
Difference between actual and expected experience	(7,365,993)	(76,812,667)	(15,341,738)	123,519,055	(103,017,525)					
Changes in assumptions		1,374,950,899								
Benefit payments	(1,160,738,238)	(1,092,952,357)	(1,035,958,950)	(970,719,484)	(914,250,015)					
Refunds	(9,455,405)	(10,874,003)	(10,145,471)	(10,774,122)	(10,485,103)			-		·
NET CHANGE IN TOTAL PENSION LIABILITY	642,917,741	1,518,652,629	677,408,345	811,328,197	598,550,120					
TOTAL PENSION LIABILITY - BEGINNING OF YEAR	20,488,672,118	18,970,019,489	18,292,611,144	17,481,282,947	16,882,732,827					
TOTAL PENSION LIABILITY - END OF YEAR (A)	\$ 21,131,589,859	\$ 20,488,672,118	\$ 18,970,019,489	\$18,292,611,144	\$17,481,282,947					
PLAN NET POSITION										
Contributions - employer	\$ 424,488,126	\$ 414,954,939	\$ 410,358,229	\$ 408,230,472	\$ 404,920,440					
Contributions - employer Contributions - member	138.766.747	133,109,939	131,100,983	128,555,684	125,225,906					
Net investment income	1,824,094,695	2,289,818,591	35,579,657	632,166,951	2,429,334,097					
Benefit payments	(1,160,738,237)		(1,035,958,950)	(970,719,484)	(914,250,015)					
Refunds	(9,455,405)	,	(10,145,471)	(10,774,122)	(10,485,103)					
Administrative expense	(9,336,430)	(7,825,595)	(8,059,030)	(8,034,857)	(8,034,236)					
7 diffillative experies	(0,000,100)	(1,020,000)	(0,000,000)	(0,00-1,007)	(0,004,200)			-		· -
NET CHANGE IN PLAN NET POSITION	1,207,819,496	1,726,231,514	(477,124,582)	179,424,644	2,026,711,089					
PLAN NET POSITION - BEGINNING OF YEAR	16,284,808,244	14,558,576,730	15,035,701,312	14,856,276,668	12,829,565,579				-	
PLAN NET POSITION - END OF YEAR (B)	\$ 17,492,627,740	\$ 16,284,808,244	\$ 14,558,576,730	\$15,035,701,312	\$14,856,276,668			•		
NET PENSION LIABILITY - END OF YEAR (A) - (B)	\$ 3,638,962,119	\$ 4,203,863,874	\$ 4,411,442,759	\$ 3,256,909,832	\$ 2,625,006,279			-		·
Plan net position as a percentage of total										
pension liability	82.78%	79.48%	76.75%	82.20%	84.98%					
Covered employee payroll	\$ 2,986,026,715	\$ 2,921,965,125	\$ 2,888,392,668	\$ 2,873,988,053	\$ 2,850,860,174					
Net pension liability as a percentage of covered										
employee payroll	121.87%	143.87%	152.73%	113.32%	92.08%					

^{*} ATRS is only required to present those years for which information is available until the full 10-year trend is completed.

ARKANSAS TEACHER RETIREMENT SYSTEM SCHEDULE OF CONTRIBUTIONS FOR THE TEN-YEAR PERIOD ENDED JUNE 30, 2018

	 2018	 2017	 2016	2015	2014	2013*	2012*	2011*	2010*	2009*
Actuarially-determined contribution Actual contribution	\$ 422,365,685 424,488,126	\$ 423,846,831 414,954,939	\$ 437,434,470 410,358,229	\$ 474,773,530 408,230,472	\$ 485,904,529 404,920,440					
Contribution deficiency (excess)	\$ (2,122,441)	\$ 8,891,892	\$ 27,076,241	\$ 66,543,058	\$ 80,984,089					
Covered employee payroll	\$ 2,986,026,715	\$ 2,921,965,125	\$ 2,888,392,668	\$ 2,873,988,053	\$ 2,850,860,174					
Actual contribution as a percentage of covered employee payroll	14.22%	14.20%	14.21%	14.20%	14.20%					

^{*} ATRS is only required to present those years for which information is available until the full 10-year trend is completed.

ARKANSAS TEACHER RETIREMENT SYSTEM SCHEDULE OF INVESTMENT RETURNS FOR THE TEN-YEAR PERIOD ENDED JUNE 30, 2018

	2018	2017	2016	2015	2014	2013*	2012*	2011*	2010*	2009*
Annual money-weighted rate of return	11.46%	16.09%	0.24%	4.34%	19.27%					

^{*} ATRS is only required to present those years for which information is available until the full 10-year trend is completed.

ARKANSAS TEACHER RETIREMENT SYSTEM NOTES TO REQUIRED SUPPLEMENTARY INFORMATION JUNE 30, 2018

NOTE 1: Summary of significant information related to required supplementary schedules

A. Changes in benefit terms

There were no significant changes in benefit terms for the year ended June 30, 2018.

B. Changes in assumptions

There were no significant changes in assumptions for the year ended June 30, 2018.

C. Method and assumptions used in calculations of actuarially-determined contributions

Valuation date: June 30, 2018

The actuarially-determined contribution rates are calculated as of June 30 of every year, which is one year prior to the

beginning of the fiscal year in which contributions are reported.

The following actuarial methods and assumptions were used to determine contribution rates reported in the schedule of contributions:

Actuarial cost method Entry age normal

Amortization method Level percentage of payroll, closed

Remaining amortization period 28 years

Asset valuation method 4-year closed period; 20% corridor

Wage inflation 2.75%

Projected salary increases 2.75 - 7.75%

Investment rate of return 7.50% compounded annually

Mortality table RP-2014 Healthy Annuitant, Disabled Annuitant, and

Employee Mortality Tables were used for males and females. Mortality rates were adjusted using projection

scale MP-2017 from 2006.

	Scaling Facto		
Table	Males	Females	
Healthy Annuitant	101%	91%	
Disabled Annuitant	99%	107%	
Employee Mortality	94%	84%	

ARKANSAS TEACHER RETIREMENT SYSTEM SCHEDULE OF SELECTED INFORMATION FOR THE FIVE-YEAR PERIOD ENDED JUNE 30, 2018

	For the Year Ended June 30,				
	2018	2017	2016	2015	2014
Total Assets	\$ 18,088,381,003	\$ 16,792,590,856	\$ 15,236,170,821	\$ 15,746,448,807	\$ 15,587,124,060
Total Liabilities	595,753,263	507,782,612	677,591,091	710,747,795	730,847,392
Net Position Restricted for Pension Benefits	17,492,627,740	16,284,808,244	14,558,576,730	15,035,701,312	14,856,276,668
Total Additions (Losses)	2,387,349,568	2,837,883,469	577,038,869	1,168,953,107	2,959,480,443
Total Deductions	1,179,530,072	1,111,651,955	1,054,163,451	989,528,463	932,769,354